



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,036	11/16/2001	Naoya Yabuuchi	M&M-047-USA-P	7857

7590

06/20/2003

LAW OFFICES OF TOWNSEND & BANTA
Suite 500, #50028
1225 Eye Street, N.W.
Washington, DC 20005

EXAMINER

HAMILTON, CYNTHIA

ART UNIT	PAPER NUMBER
----------	--------------

1752

DATE MAILED: 06/20/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,036

Applicant(s)

YABUUCHI ET AL.

Examiner

Cynthia Hamilton

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01/07/02, 5/10/02, 4/22/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 11 is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-12 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 6, reference is made to "The aqueous emulsion type photosolder resist composition according to claim 1". There is no "aqueous emulsion type photosolder resist composition" in claim 1. Thus, what is meant by this referral is unclear. There is no clear antecedent basis for it in claim 1. Further, what is meant by "type" in "aqueous emulsion type photosolder resist composition" is not defined by applicants in their specification. Applicants have on pages 6 and 14-15 of their specification disclose an aqueous solution when neutralizing the resin (A) with a base and disclose emulsifying the photosolder resist composition by neutralizing the resin with base making the resin water soluble. Examples 3-6 reference water-soluble photosolder resist compositions. The use of "type" with "aqueous emulsion" leaves unclear whether an aqueous emulsion photosolder resist composition is being claimed, i.e. it must be an emulsion and have water present, or that somehow "type" changes the meaning of "aqueous emulsion", e.g. a component of the composition is made by aqueous emulsion but that said emulsion is no longer necessarily present. The addition of the word "type" to an otherwise definite expression extends the scope of the expression so as to render it indefinite. *Ex parte*

Art Unit: 1752.

Copenhaver, 109 USPQ 118 (Bd. App. 1955), *Ex parte Attig*, 7 USPQ2d 1092 (Bd. Pat. App. & Inter. 1986). See particularly MPEP 2173.05 (b). Thus, claims 6-10 are indefinite.

4. The examiner notes for the record that the compositions of claims 6-10 are product-by-process compositions in that they are not those set forth in claim 1 but those made from the composition of claim 1 by neutralizing the carboxyl groups and forming the a new resin from resin (A). What is formed is a salt of resin (A). Thus, the relationship between the composition of claim 1 and claim 6 is that of intermediate and final product. Carboxyl groups are COOH groups as recognized in the art. The examiner has found no definition of carboxyl group which would broaden it's generally accepted meaning.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5 are allowed.

7. Applicant's election without traverse of Group I in Paper No. 8 is acknowledged.

8. Claim 12 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

9. Claim 11 is directed to an allowable product. Pursuant to the procedures set forth in the Official Gazette notice dated March 26, 1996 (1184 O.G. 86), claim 11, directed to the process of making or using the patentable product, previously withdrawn from consideration as a result

Art Unit: 1752

of a restriction requirement, is now subject to being rejoined. Process claim 11 is hereby rejoined and fully examined for patentability under 37 CFR 1.104. In accordance with the Official Gazette notice, *supra*, process claim 12, which is not depend from or otherwise include all the limitations of the allowable product, is NOT been rejoined.

10. Claim 11 is allowed.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mirle et al (5,462,835) teach the instant polymers with the exception of the need for isobornyl groups and added epoxy compounds. Kempf et al (5,741,621) teach partially neutralizing binder to get a stable aqueous emulsion for a photoimageable composition. Shioda et al (124:356233 and JP 08-29980) teach using dicylopentanyl methacrylate in such binders. This is a derivative of isobornyl groups but no added cyclic ether is disclosed. Masaki et al (6,004,705) teach all of the instant composition of claim 1 if the ethylene oxide or propylene oxide of col. 13 is optionally added except there is no disclosure to the use of isobornyl groups. Kakinuma et al (US 6,342,322 B1 and Derwent-Acc.-No 199-575243 and 11-249302) teach the optional use of isobornyl (meth)acrylates in the polymers of instant claims but there is no disclosure to adding epoxies with the acrylate monomers. In Kakinuma et al, see particularly Abstract, col. 3, lines 45-56, col. 6, third paragraph, col. 8, last half, col. 11, lines 53-58, col. 12, last paragraph, and claims. Arima (5,741,622) teach a gold plating photosolder resist wherein the instant polymer is generally taught but there is no added addition of cyclic ethers after consuming the epoxy groups to make the polymer. In Arima, see particularly the Abstract, col. 4, lines 4-24, col. 6, lines 29-56, col. 7, line 23-26, col. 9, lines 20-38. There is no disclosure to using the isobornyl group with epoxy methacrylates that may have an epoxy group present.

Art Unit: 1752

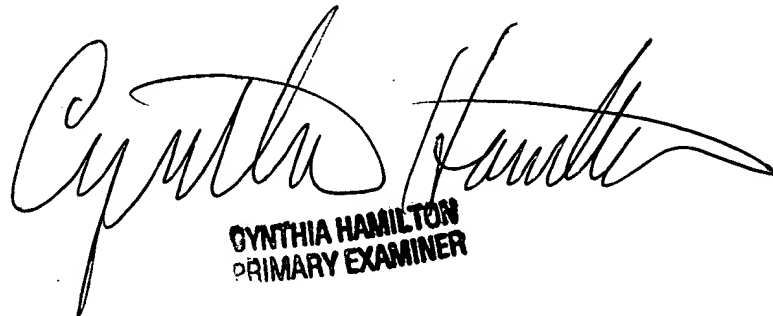
There is no guidance as to why the isobornyl group would be selected over all the rest then combined particularly with the epoxy acrylate mixed with an acrylated diluent. No example of Arima makes use of the isobornyl group or the cyclic ether as a separate additive. There is clearly no combination in a working example.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cynthia Hamilton whose telephone number is (703) 308-3626. The examiner can normally be reached on Monday-Friday, 9:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Baxter can be reached on (703) 308-2303. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the 1700 receptionist whose telephone number is (703) 308-0661.

Cynthia Hamilton
June 16, 2003



CYNTHIA HAMILTON
PRIMARY EXAMINER